

Special Topic: PGE Exit Handling

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Presentation Contents



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PDPS Roadmap



Special Topic: Production Rules

Capture PGE Profile at **SSI&T**

Describe Production Goals through **Production Requests**

Accept **On-demand** Production Requests

Accept Resource Reservations and Create **Resource Plans**

Planning Production Controls - Create and Activate **Production Plans**

Coordinate Production from Data Arrival with **Subscription** Notifications

Handle L0 **Data Preparation**

Special Topic: Production Subsetting

Realtime **Production** Controls and PGE Execution Monitoring

Special Topic: PGE Exit Handling

Quality Assurance Check Output Products

Special Topic: PDPS Database

Special Topic: Ancillary Data Pre-Processing

Background



- To automatically take a predetermined path in the event of a full or partial PGE execution failure
- To incorporate lessons learned from Ir1 PDPS use

Approach



- **Automatically submit On-demand Production Requests based on the exit status of a PGE.**
- **These On-demand Production Requests are based on templates entered at SSIT time.**
- **In addition, provide a GUI to allow one-stop access to all PGE-related log files.**

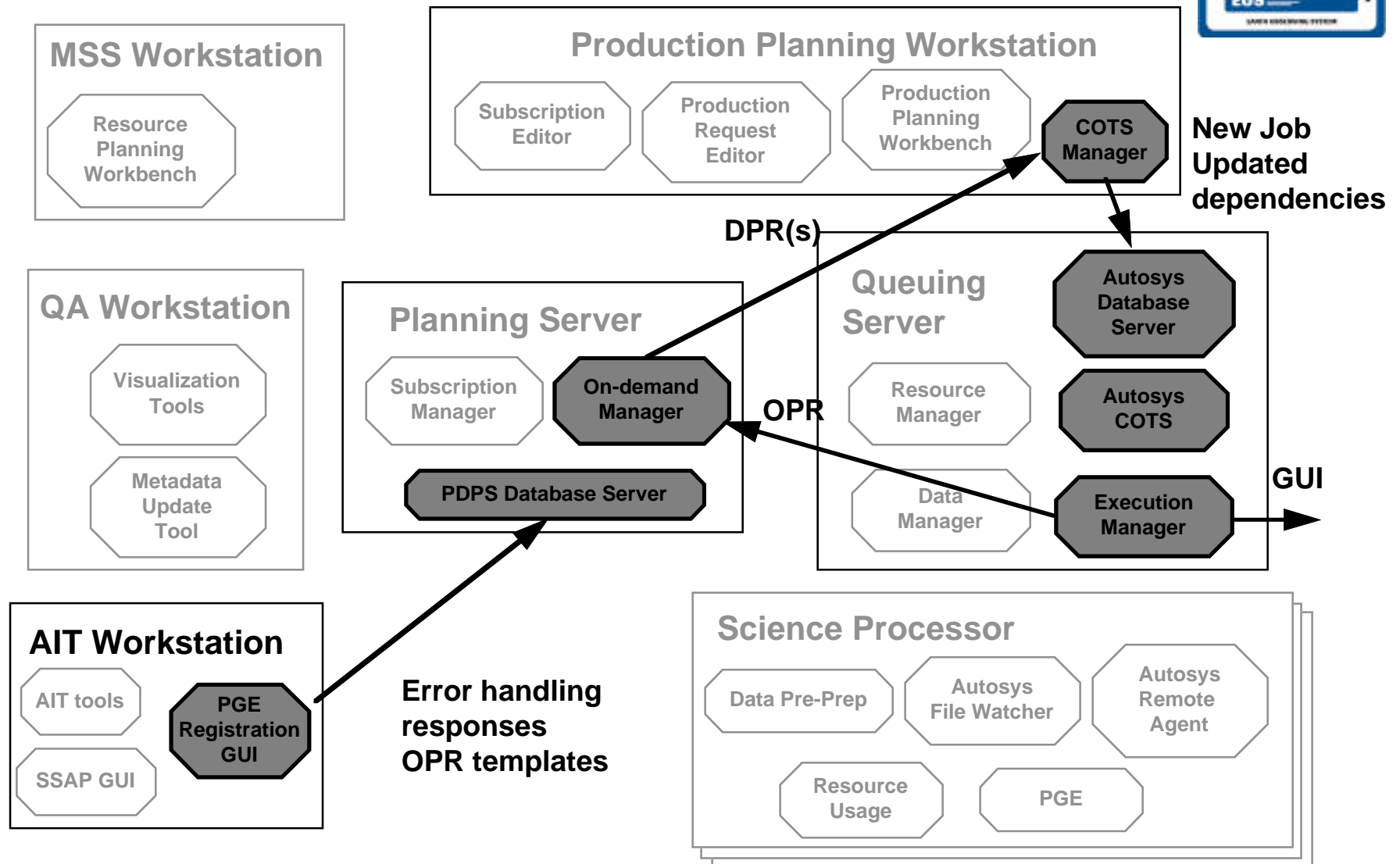
CSCs Involved



- **PRONG - Execution Management**
- **PRONG - Job Management**
- **PLANG - On-Demand Manager**



Physical Model



High Level Explanation



SSIT

- **Enter error responses for different exit status'**
- **Choice of**
 - none
 - alarm notice text
 - alarm notice text and On Demand Production Request template
 - could be for same PGE, different PGE, multiple PGEs
 - could request replacement of failed PGE in order to preserve production chain



High Level Explanation (cont.)

Execution Management

- **Select error handling option based on PGE exit status**
- **For On Demand Production Requests, fill out timeframe and if requested old DPR id to preserve chain**
- **submit OPR**
- **display GUI for logs**

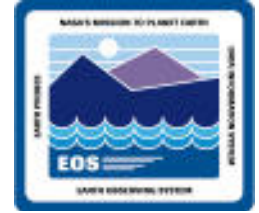
On Demand Manager

- **handle OPR as usual**
 - **if old DPR id is given in request, call Job Management function to Replace DPR.**

Job Management (Replace DPR)

- **create new Autosys job**
- **update Autosys job dependencies to point to new Autosys job instead of old**

PGE Exit Handling

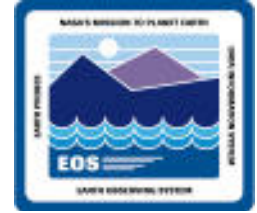


Workflows:

- Review and Change Alarm Status

Object Model:

- PGE Profile



PGE Exit Handling (cont.)

Event Traces:

- **PGE Profile Updating Exit Responses**

- This scenario describes entering the exit responses during SSIT.

- **PGE Exit Status Handling**

- This scenario describes the actions performed upon the receipt of a PGE exit status.

- **CDROnDemandDPS**

- This scenario describes the actions performed by the Planning On Demand Manager upon receipt of an On Demand Production Request from Processing.

- **Replacing a PGE**

- This scenario describes how the Processing Job Management handles the replacement of a PGE within Autosys.

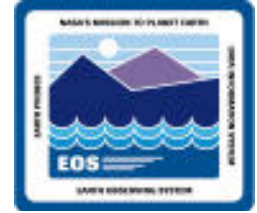
Uses



1. PGE fails due to ECS resource fault (e.g. disk drive, Data Server connection)

- Action :
 - IT notified
 - notify MSS of resource failure
 - update Processing resource map
 - notify Production Monitor with alarm text
 - submit OPR for same PGE and input data
 - DPR dependencies reset to recover chain
 - PGE (re)runs on different hardware

Uses (cont.)



2. PGE fails due to internal fault

- **Action :**
 - IT notified
 - notify Production Monitor with alarm text
 - submit OPR for debug PGE/debug version PGE to gather more information
 - debug PGE executes
 - IT picks up subscription for debug output
 - Production Monitor “prunes” rest of chain

Uses (cont.)



3. Multi-Process PGE suffers partial failure

- **Action :**
 - PGE marks valid output files using SDP Toolkit function
 - IT notified
 - Production Monitor notified with alarm text
 - OPR submitted for individual element PGEs (those that failed), same input data
 - individual element PGEs run

Uses (cont.)



4. PGE suffers recoverable failure

- **Action :**
 - Production Monitor notified with alarm text
 - OPR submitted for in-line QA PGE
 - in-line QA PGE runs on output data

5. FDF Orbit repair

- **Action :**
 - DPREP PGE returns exit code indicating corrupt orbit data
 - Production Monitor notified with alarm text
 - OPR submitted for FDF orbit repair PGE
 - FDF orbit repair PGE runs on output data and repairs orbit data

Summary



- **Release B Processing can automatically take a predetermined path based on the exit status of a PGE. This can be used in the case of full or partial PGE failures.**
- **Simple GUI added for easy access of all PGE-related log files.**